

Submission on the Dendrobium Mine Expansion Proposal

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Healthy planet, **healthy people.**

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Doctors for the Environment (DEA) is a non-profit national organisation of Australian doctors and medical students with an emphasis on preserving health and wellbeing with respect to the environment. It is our stance that human health is indivisible from environmental health.

DEA is concerned about the ongoing mining activities occurring within the Greater Sydney Water Catchment, and the effects of this mining on the water security of over 5 million people². There is increasing evidence of damage to groundwater systems that supply Sydney's drinking water from mining operations³, and this expansion proposal comes at a time when dam levels are below 50% capacity and water restrictions are in place⁴. The Dendrobium Mine Expansion will only further these damaging impacts, placing the water supply in even more precarious territory.

DEA has concerns that coal mining expansion will increase greenhouse gas emissions, driving increasing climate change and global temperature with severe and negative health impacts that will be felt on a local and global scale. Recent reports from the Intergovernmental Panel on Climate Change (IPCC) has clearly outlined the urgency to reduce greenhouse gas emissions to avoid catastrophic climate change⁵. The Dendrobium Mine Expansion cannot proceed as it will produce significant greenhouse gas emissions which will directly contribute to climate change.

Furthermore, DEA is gravely concerned about the impact of the proposed Dendrobium Mine Expansion on water security in the context of our changing climate. This expansion will not only directly contribute to climate change via emissions from the mine itself and the use of the coal extracted, but the negative impacts on water supply and water security will become more and more significant under more extreme weather conditions predicted for the future. The Dendrobium Mine Expansion cannot be approved, as this project clearly prioritises corporate profits over the health of the communities of the Illawarra and Greater Sydney regions.

1. Groundwater Impacts

Appendix B: Groundwater Assessment provides some detail regarding projected impacts on groundwater from the Dendrobium Mine, up to the year 2050. It is unclear from this Appendix when projections referring to the 'Dendrobium Mine' are inclusive of the proposed Area 5 and 6 extensions.

A figure of 2,800 megalitres/year losses from the Cordeaux and Avon catchments combined is projected, which is equivalent to more than 1,100 Olympic swimming pools, or the average annual water consumption of 12,334 households⁶. Modelling of impacts on the Nepean catchment was not performed.

The Independent Expert Panel for Mining in the Catchment initial report³ estimates that a current 3 megalitres/day (1,095 megalitres/year) is currently being lost due to mining activities at the Dendrobium Mine. This is set to almost triple should the Area 5 and 6 expansions be approved.

It is stated in the Appendix that groundwater losses will be increased in times of wet weather, with the result that rains which usually replenish dam levels will become less effective. It is also noted in the Appendix that groundwater losses are expected to be most severe in 2043-2046, but this modelling only projects forwards to the year 2050. It is therefore unclear what the patterns of water losses will be after the year 2050.

Furthermore, this proposal comprises an aggressive plan for twenty-one 305-meter-wide longwall panels over 30 years. It provides no alternatives to this destructive proposal, which poses unacceptable risks to the Greater Sydney Water Catchment Special Areas. It is notable that the recent judgement by the Independent Planning Commission on the Dartbrook Coal Mine extension rejected longwall mining as too destructive, and the extension was approved only for less intensive bord-and-pillar methods⁷.

This combination of ongoing groundwater losses from Sydney's water catchment, as well as the increased groundwater losses in times of rain are very concerning for the water security of Australia's most populous city and surrounding regions. Sydney's dam levels currently sit below 50%, and a \$1.8 billion desalination plant is being used to supply drinking water to the region. It is extraordinary that a proposal such as the Dendrobium Mine expansion is being considered given its threat to the Sydney water supply.

Water is essential for human health, and indeed all life, and there is no way that our communities can function without secure access to safe drinking water.

2. Greenhouse Gas Emissions

Appendix I: Air Quality and Greenhouse Gas Assessment provides some detail regarding pollution of both particulates and greenhouse gases from the Dendrobium Mine. The appendix categorises greenhouse gas emissions into Scope 1, 2 and 3 sources.

Scope 1 emissions (those related to mine operations and transportation) alone are estimated to contribute 0.5% of total greenhouse gas emissions for NSW, and 0.1% of total greenhouse gas emissions for Australia. This is an enormous contribution, estimated at over 500,000 tonnes of CO₂-equivalent each year, based on Australian Government Data from 2018⁸ from Scope 1 emissions alone.

Total emissions over the lifetime of the project, including those from the usage of product coal, are estimated at 274,246,466 tonnes of CO₂-equivalent (Table 8-3). This is equivalent to about half of Australia's current national emissions per year⁸, an enormous figure. It is unclear from the text or tables in Appendix I whether Scope 3 emissions are inclusive of product coal use in export markets. Given that only approximately one-third of product coal from the Dendrobium Mine is used for domestic steel production, the true Scope 3 emissions figure for this project could be much higher.

As detailed above, Dendrobium Mine will have an enormous contribution to greenhouse gas emissions if it gains approval for extensions into Areas 5 and 6. This is at a time when the IPCC continues to outline the urgent need to cut greenhouse gas emissions to reduce the risks of catastrophic climate change. It is unconscionable for governments to continue to approve projects that knowingly have significant climate impacts, such as this Dendrobium Mine Expansion Proposal.

Climate change contributes to a multitude of negative health impacts, including the direct impacts of heatwaves, bushfires, floods and other extreme weather events. Other less obvious health impacts include changing patterns of infectious and vector-borne disease, mental health impacts of ecosystem collapse and extreme weather, and food and water insecurity. These will all hit those with chronic illness, the very young, very old, pregnant, and disadvantaged members of our communities the hardest. This will clearly also have flow-on effects for the NSW public health system, which is already under immense strain.

The purported economic benefits of any mining project need to be balanced with the financial and material costs to the community of environmental destruction, climate change adaptation, and climate-related health impacts. These externalities need to be carefully considered before approving any project, including the Dendrobium Mine Expansion Proposal.

The recent Rocky Hill mine proposal judgement in the NSW Land and Environment Court is very notable, and relevant to a determination on the Dendrobium Mine Expansion Proposal⁹. Like Rocky Hill, the proposed Dendrobium Mine expansion into Areas 5 and 6 will produce significant greenhouse gases (especially scope 3 emissions), and these emissions will have significant impacts on climatic systems and human health. The land and environment court stated that *the GHG emissions of the Project support refusal of the Project*, and provide extensive detail regarding (1) the requirement for consent authorities to consider downstream emissions (section 486-513), (2) the causal link between the project's emissions and climate change (Section 525-528), and (3) that producing coking coal is not a justification for greenhouse gas emissions (section 546-549). While the Dendrobium Mine Expansion Proposal is seeking approval for an extension to current mining operations, the majority of the decisions made by the Land and Environment Court in the Rocky Hill judgement are highly relevant to an assessment of this expansion currently on exhibition.

It is the opinion of DEA that the proposed Dendrobium Mine Expansion should be rejected by the NSW Department of Planning and Environment. This project will contribute significantly to climate change and water insecurity both on a local and global level, and it cannot be approved with knowledge of these health risks to our communities.

References

¹ <https://www.planningportal.nsw.gov.au/major-projects/project/9696>

² <https://www.waternsw.com.au/water-quality/catchment>

³ Independent Expert Panel for Mining in the Catchment (IEPMC), 2018, Initial report on specific mining activities at the Metropolitan and Dendrobium coal mines, Prepared for the NSW Department of Planning and Environment

⁴ <https://www.nsw.gov.au/news-and-events/news/water-restrictions-to-start-across-sydney/>

⁵ IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press

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https://www.sydneywater.com.au/web/groups/publicwebcontent/documents/document/zgrf/mdq2/~edisp/dd_046262.pdf

⁷ <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2019/02/dartbrook-coal-mine-modification-7/determination/dartbrook-coal-mine-mod-7--statement-of-reasons-for-decision.pdf>

⁸ Quarterly Update of Australia's National Greenhouse Gas Inventory: December 2018, Commonwealth of Australia 2019

⁹ Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7